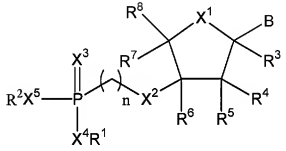
AMENDMENTS TO THE CLAIMS

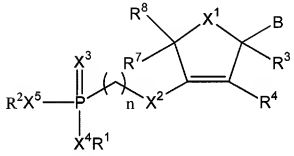
The following listing of claims replaces, without prejudice, all prior versions and listings of claims in this application.

1-13. (Canceled)

14. (Currently amended) A compound represented by one of the general formulae (II) and (XIX):



(II), and



(XIX)

wherein:

- X^1, X^2, X^3, X^4 and X^5 are each ~~an atom~~ a divalent moiety independently selected from

the group consisting of ~~oxygen and sulfur~~ -O- and -S-,

- B is a ~~natural or non-natural heterocyclic nucleobase~~ heterocycle selected from the group consisting of pyrimidine and purine bases,
- R^1 and R^2 are each independently selected from the group consisting of hydrogen; (-$PO_3R^{16})_m$-$PO_3R^{17}R^{18}$; alkyl; alkenyl; alkynyl; cycloalkyl; cycloalkenyl; cycloalkynyl; aryl; arylalkyl; ~~heterocyclic; heterocyclic-alkyl;~~ acyloxyalkyl; acyloxyalkenyl; acyloxyalkynyl; acyloxyaryl; acyloxyarylalkyl; acyloxyarylalkenyl; acyloxyarylalkynyl; dialkylcarbonato; alkylarylcarbonato; alkylalkenylcarbonato; alkylalkynylcarbonato; alkenylarylcarbonato; alkynylarylcarbonato; alkenyl-alkynylcarbonato; dialkenylcarbonato and dialkynylcarbonato; wherein said alkyl, alkenyl and alkynyl optionally contains one or more heteroatoms in the hydrocarbon chain, said heteroatoms being independently selected from the group consisting of oxygen and sulfur and NH;
- R^4, R^5 and R^6 are each independently selected from the group consisting of hydrogen, azido, halogen, cyano, alkyl, alkenyl, alkynyl, SR^{14} and OR^{14};
- R^3, R^7 and R^8 are each hydrogen;
- R^{14} is selected from the group consisting of hydrogen; alkyl; alkenyl; alkynyl; cycloalkyl; cycloalkenyl; cycloalkynyl; aryl; ~~heterocyclic;~~ arylalkyl; ~~heterocyclic-alkyl~~ and acyloxyalkyl; wherein said alkyl, alkenyl and alkynyl optionally contain one or more heteroatoms in the hydrocarbon chain, said heteroatoms being independently

selected from the group consisting of oxygen and sulfur;

- R^{16}, R^{17} and R^{18} are independently selected from the group consisting of hydrogen; alkyl; alkenyl; alkynyl; cycloalkyl; cycloalkenyl; cycloalkynyl; aryl; arylalkyl; ~~heterocyclic ring; heterocyclic ring-alkyl~~ and acyloxyalkyl; wherein said alkyl, alkenyl and alkynyl optionally contain one or more heteroatoms in the hydrocarbon chain, said heteroatoms being independently selected from the group consisting of oxygen and sulfur;

- ~~X^4 and R^1, or X^5 and R^2, may together form an amino acid residue or polypeptide wherein a carboxyl function of said amino acid residue being at a distance from the amidate nitrogen not further than 5 atoms is esterified;~~

- ~~X^4 and R^1, or X^5 and R^2, may together form a group having the formula $OC(R^9)_2OC(O)Y(R^{10})_a$ wherein Y = N or O, a = 1 when Y is O, and a = 1 or 2 when Y is N;~~

- R^9 is selected from the group consisting of hydrogen, alkyl, aryl, alkenyl, alkynyl, alkenylaryl, alkynylaryl and alkylaryl, wherein each of said alkyl, alkenyl, alkynyl and aryl groups is optionally substituted with one or more atoms or groups selected from the group consisting of halo, cyano, azido, nitro and OR^{14};

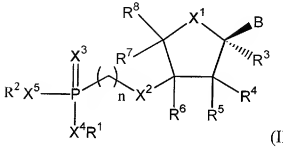
- R^{10} is selected from the group consisting of hydrogen, alkyl, aryl, alkenyl, alkynyl, alkenylaryl, alkynylaryl and alkylaryl, wherein each of said alkyl, alkenyl, alkynyl and aryl groups is optionally substituted with one or more atoms or groups selected from

the group consisting of halo, cyano, azido, nitro, OR^{14} and $NR^{11}R^{12}$;

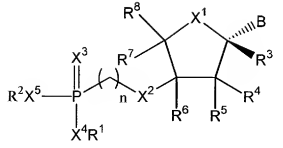
- R^{11} and R^{12} are each independently selected from the group consisting of hydrogen and alkyl, [[-]] provided that at least one of R^{11} and R^{12} is not hydrogen;
- n is an integer representing the number of methylene groups between X_2 and P, each of said methylene groups being optionally and independently substituted with one or two substituents selected from the group consisting of halogen, hydroxyl, sulhydryl and C_{1-4} alkyl, and n being selected from 1, 2, 3, 4, 5 and 6; and
- m is 0 or 1,

~~including~~ or a pharmaceutically acceptable salt~~s, solvates, and~~ or stereoisomer[[s]] thereof.

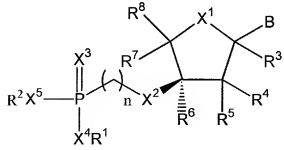
15. (Currently amended) The compound of claim 14, being represented by one of the general formulae (III) to (XVIII):



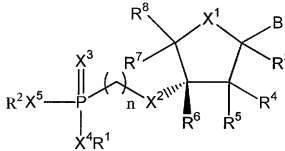
(III),



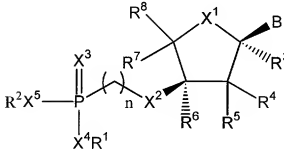
(IV),



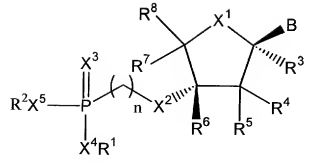
(V),



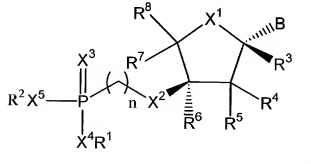
(VI),



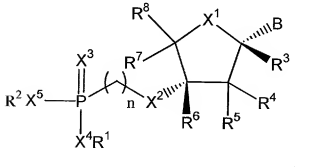
(VII),



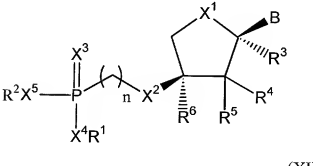
(VIII),



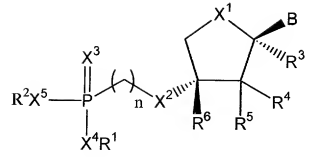
(IX),



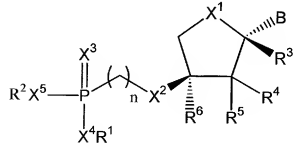
(X),



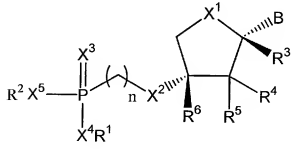
(XI),



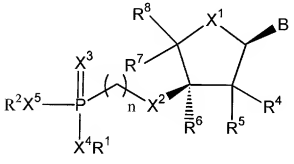
(XII)



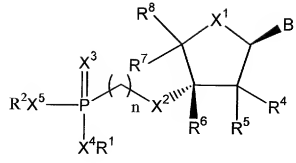
(XIII)



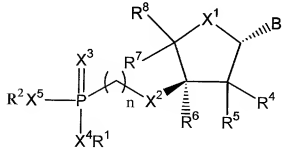
(XIV),



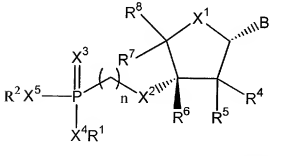
(XV),



(XVI)



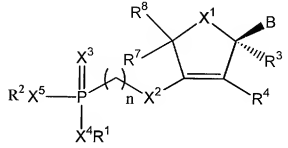
(XVII), and



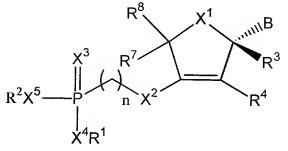
(XVIII)

wherein n, m, B, X^1, X^2, X^3, X^4, X^5, R^1, R^2, R^3, R^4, R^5, R^6, R^7, R^8, R^9, R^{10}, R^{11}, R^{12}, R^{14}, R^{16}, R^{17} and R^{18} are defined as in formula (II), ~~including~~ or a pharmaceutically acceptable ~~salts, solvates, and~~ or stereoisomer[[s]] thereof.

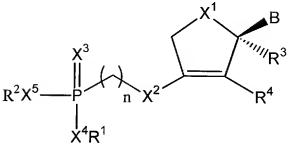
16. (Currently amended) The compound of claim 14, being represented by any of the following formulae (XX) to (XXVI):



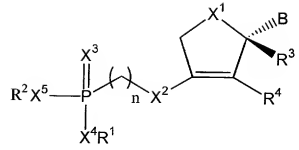
(XX),



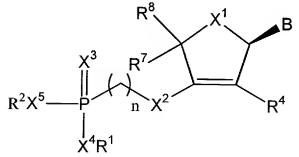
(XXI),



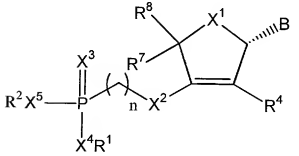
(XXII),



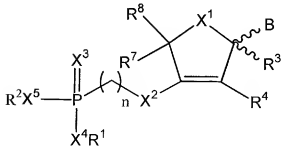
(XXIII),



(XXIV),



(XXV), and



(XXVI),

wherein n, m, B, X^1, X^2, X^3, X^4, X^5, R^1, R^2, R^3, R^4, R^7, R^8, R^9, R^{10}, R^{11}, R^{12}, R^{14}, R^{16}, R^{17}

and R^{18} are defined as in formula (XIX), ~~including~~ or a pharmaceutically acceptable salts~~, solvates, and~~ or stereoisomer[[s]] thereof.

17. (Currently amended) The compound of claim 14, wherein B is selected from the group consisting of hypoxanthin[[e]]yl, guanin[[e]]yl, adenin[[e]]yl, cytosin[[e]]yl, thymin[[e]]yl, uracil, xanthin[[e]]yl and 2,6-diaminopurin[[e]]yl; 8-aza ~~derivatives~~ analogues of 2-aminopurin[[e]]yl, 2,6-diaminopurin[[e]]yl, 2-amino-6-chloropurin[[e]]yl, hypoxanthin[[e]]yl and xanthin[[e]]yl wherein the heterocyclic ring is substituted with one or more substituents independently selected from the group consisting of halogen, hydroxyl, amino and C_{1-6} alkyl; 7-deaza-8-aza ~~derivatives~~ analogues of adenin[[e]]yl, guanin[[e]]yl, 2-aminopurin[[e]]yl, 2,6-diaminopurin[[e]]yl, 2-amino-6-chloropurin[[e]]yl, hypoxanthin[[e]]yl and xanthin[[e]]yl wherein the heterocyclic ring is substituted with one or more substituents independently selected from the group consisting of halogen, hydroxyl, amino and C_{1-6} alkyl; 1-deaza ~~derivatives~~ analogues of 2-aminopurin[[e]]yl, 2,6-diaminopurin[[e]]yl, 2-amino-6-chloropurin[[e]]yl, hypoxanthin[[e]]yl and xanthin[[e]]yl wherein the heterocyclic ring is substituted with one or more substituents independently selected from the group consisting of halogen, hydroxyl, amino and C_{1-6} alkyl; 7-deaza ~~derivatives~~ analogues of 2-aminopurin[[e]]yl, 2,6-diaminopurin[[e]]yl, 2-amino-6-chloropurin[[e]]yl, hypoxanthin[[e]]yl and xanthin[[e]]yl wherein the heterocyclic ring is substituted with one or more substituents

independently selected from the group consisting of halogen, hydroxyl, amino and C_{1-6} alkyl; 3-deaza ~~derivatives~~ analogues of 2-aminopurin[[e]]yl, 2,6-diaminopurin[[e]]yl, 2-amino-6-chloropurin[[e]]yl, hypoxanthin[[e]]yl and xanthin[[e]]yl wherein the heterocyclic ring is substituted with one or more substituents independently selected from the group consisting of halogen, hydroxyl, amino and C_{1-6} alkyl; 6-azacytosin[[e]]yl; 5-fluorocytosin[[e]]yl; 5-chlorocytosin[[e]]yl; 5-iodocytosin[[e]]yl; 5-bromocytosin[[e]]yl; 5-methylcytosin[[e]]yl; 5-bromovinyluracil; 5-fluorouracil; 5-chlorouracil; 5-iodouracil; 5-bromouracil; 5-trifluoromethyluracil; 5-methoxymethyluracil; 5-ethynyluracil and 5-propynyluracil.

18. (Currently amended) The compound of claim 15, wherein B is selected from the group consisting of hypoxanthin[[e]]yl, guanine[[e]]yl, adenine[[e]]yl, cytosine[[e]]yl, thymin[[e]]yl, uracil, xanthin[[e]]yl and 2,6-diaminopurin[[e]]yl; 8-aza ~~derivatives~~ analogues of 2-aminopurin[[e]]yl, 2,6-diaminopurin[[e]]yl, 2-amino-6-chloropurin[[e]]yl, hypoxanthin[[e]]yl and xanthin[[e]]yl wherein the heterocyclic ring is substituted with one or more substituents independently selected from the group consisting of halogen, hydroxyl, amino and C_{1-6} alkyl; 7-deaza-8-aza ~~derivatives~~ analogues of adenin[[e]]yl, guanin[[e]]yl, 2-aminopurin[[e]]yl, 2,6-diaminopurin[[e]]yl, 2-amino-6-chloropurin[[e]]yl, hypoxanthin[[e]]yl and xanthin[[e]]yl wherein the heterocyclic ring is substituted with one or more substituents independently selected from the group

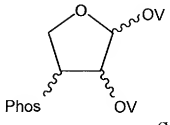
consisting of halogen, hydroxyl, amino and C_{1-6} alkyl; 1-deaza ~~derivatives~~ analogues of 2-aminopurin[[e]]yl, 2,6-diaminopurin[[e]]yl, 2-amino-6-chloropurin[[e]]yl, hypoxanthin[[e]]yl and xanthin[[e]]yl wherein the heterocyclic ring is substituted with one or more substituents independently selected from the group consisting of halogen, hydroxyl, amino and C_{1-6} alkyl; 7-deaza ~~derivatives~~ analogues of 2-aminopurin[[e]]yl, 2,6-diaminopurin[[e]]yl, 2-amino-6-chloropurin[[e]]yl, hypoxanthin[[e]]yl and xanthin[[e]]yl wherein the heterocyclic ring is substituted with one or more substituents independently selected from the group consisting of halogen, hydroxyl, amino and C_{1-6} alkyl; 3-deaza ~~derivatives~~ analogues of 2-aminopurin[[e]]yl, 2,6-diaminopurin[[e]]yl, 2-amino-6-chloropurin[[e]]yl, hypoxanthin[[e]]yl and xanthin[[e]]yl wherein the heterocyclic ring is substituted with one or more substituents independently selected from the group consisting of halogen, hydroxyl, amino and C_{1-6} alkyl; 6-azacytosin[[e]]yl; 5-fluorocytosin[[e]]yl; 5-chlorocytosin[[e]]yl; 5-iodocytosin[[e]]yl; 5-bromocytosin[[e]]yl; 5-methylcytosin[[e]]yl; 5-bromovinyluracil; 5-fluorouracil; 5-chlorouracil; 5-iodouracil; 5-bromouracil; 5-trifluoromethyluracil; 5-methoxymethyluracil; 5-ethynyluracil and 5-propynyluracil.

19. (Currently amended) The compound of claim 16, wherein B is selected from the group consisting of hypoxanthin[[e]]yl, guanine[[e]]yl, adenine[[e]]yl, cytosine[[e]]yl, thymin[[e]]yl, uracil, xanthin[[e]]yl and 2,6-diaminopurin[[e]]yl; 8-aza ~~derivatives~~

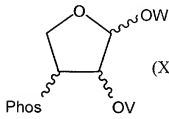
analogues of 2-aminopurin[[e]]yl, 2,6-diaminopurin[[e]]yl, 2-amino-6-chloropurin[[e]]yl, hypoxanthin[[e]]yl and xanthin[[e]]yl wherein the heterocyclic ring is substituted with one or more substituents independently selected from the group consisting of halogen, hydroxyl, amino and C_{1-6} alkyl; 7-deaza-8-aza ~~derivatives~~ analogues of adenin[[e]]yl, guanin[[e]]yl, 2-aminopurin[[e]]yl, 2,6-diaminopurin[[e]]yl, 2-amino-6-chloropurin[[e]]yl, hypoxanthin[[e]]yl and xanthin[[e]]yl wherein the heterocyclic ring is substituted with one or more substituents independently selected from the group consisting of halogen, hydroxyl, amino and C_{1-6} alkyl; 1-deaza ~~derivatives~~ analogues of 2-aminopurin[[e]]yl, 2,6-diaminopurin[[e]]yl, 2-amino-6-chloropurin[[e]]yl, hypoxanthin[[e]]yl and xanthin[[e]]yl wherein the heterocyclic ring is substituted with one or more substituents independently selected from the group consisting of halogen, hydroxyl, amino and C_{1-6} alkyl; 7-deaza ~~derivatives~~ analogues of 2-aminopurin[[e]]yl, 2,6-diaminopurin[[e]]yl, 2-amino-6-chloropurin[[e]]yl, hypoxanthin[[e]]yl and xanthin[[e]]yl wherein the heterocyclic ring is substituted with one or more substituents independently selected from the group consisting of halogen, hydroxyl, amino and C_{1-6} alkyl; 3-deaza ~~derivatives~~ analogues of 2-aminopurin[[e]]yl, 2,6-diaminopurin[[e]]yl, 2-amino-6-chloropurin[[e]]yl, hypoxanthin[[e]]yl and xanthin[[e]]yl wherein the heterocyclic ring is substituted with one or more substituents independently selected from the group consisting of halogen, hydroxyl, amino and C_{1-6} alkyl; 6-azacytosin[[e]]yl; 5-fluorocytosin[[e]]yl; 5-chlorocytosin[[e]]yl; 5-iodocytosin[[e]]yl; 5-bromocytosin[[e]]yl;

5-methylcytosin[[e]]yl; 5-bromovinyluracil; 5-fluorouracil; 5-chlorouracil; 5-iodouracil; 5-bromouracil; 5-trifluoromethyluracil; 5-methoxymethyluracil; 5-ethynyluracil and 5-propynyluracil.

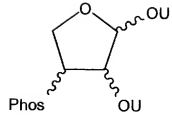
20. (Currently amended) A compound represented by one of the following general formulae (XXXI) to (XXXVI):



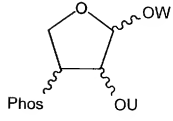
(XXXI),



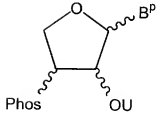
(XXXII),



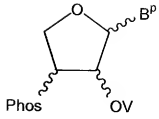
(XXXIII),



(XXXIV),



(XXXV), and



(XXXVI),

wherein:

- U is an acyl group,
- V is a trimethylsilyl or *tert*-butyldimethylsilyl group,
- W is an alkyl group,
- the snake-like symbol means any stereochemical arrangement of the respective bond,
- B^P is an optionally protected heterocyclic nucleobase, and
- Phos is ~~an O-protected phosphonoalkoxy group or phosphonothioalkyl group~~ a phosphonate coupled via a C_{1-6} alkyl group to an oxygen or sulfur atom, said oxygen or sulfur atom being itself coupled to the tetrahydrofuran skeleton of said compound.

21. (Currently amended) The compound of claim 14, being selected from the group consisting of:

1-(N^6-benzoyladenin-9-yl)-2-O-benzoyl-3-O-(diisopropylphosphonomethyl)-L-threo furanose (**11**);

1-(thymin-1-yl)-2-O-benzoyl-3-O-(diisopropylphosphonomethyl)-L-threofuranose (**12**);

1-(uracil-1-yl)-2-O-benzoyl-3-O-(diisopropylphosphonomethyl)-L-threofuranose (**13**);

1-(N^4-acetylcytosin-1-yl)-2-O-benzoyl-3-O-(diisopropylphosphonomethyl)-L-threofuranose

(**14**);

1-(adenin-9-yl)-3-O-(diisopropylphosphonomethyl)-L-threofuranose (**15**);

1-(thymin-1-yl)-3-O-(diisopropylphosphonomethyl)-L-threofuranose (**16**);

1-(uracil-1-yl)-3-O-(diisopropylphosphonomethyl)-L-threofuranose (**17**);

1-(cytosin-1-yl)-3-O-(diisopropylphosphonomethyl)-L-threofuranose (**18**);

1-(adenin-9-yl)-2-deoxy-3-O-(diisopropylphosphonomethyl)-L-threofuranose (**19**);

1-(thymin-1-yl)-2-deoxy-3-O-(diisopropylphosphonomethyl)-L-threofuranose (**20**);

1-(uracil-1-yl)-2-deoxy-3-O-(diisopropylphosphonomethyl)-L-threofuranose (**21**);

1-(cytosin-1-yl)-2-deoxy-3-O-(diisopropylphosphonomethyl)-L-threofuranose (**22**);

1-(adenin-9-yl)-3-O-(phosphonomethyl)-L-threofuranose sodium salt (**3a**);

1-(thymin-1-yl)-3-O-(phosphonomethyl)-L-threofuranose sodium salt (**3b**);

1-(uracil-1-yl)-3-O-(phosphonomethyl)-L-threofuranose sodium salt (**3c**);

1-(cytosin-1-yl)-3-O-(phosphonomethyl)-L-threofuranose sodium salt (**3d**);

1-(adenin-1-yl)-2-deoxy-3-O-(phosphonomethyl)-L-threofuranose sodium salt (**3e**);

1-(thymin-1-yl)-2-deoxy-3-O-(phosphonomethyl)-L-threofuranose sodium salt (**3f**);

1-(uracil-1-yl)-2-deoxy-3-O-(phosphonomethyl)-L-threofuranose sodium salt (**3g**);

1-(cytidin-1-yl)-2-deoxy-3-O-(phosphonomethyl)-L-threofuranose sodium salt (**3h**);

or a pharmaceutically acceptable salt, ~~an~~ or stereoisomer, ~~a solvate or a pro-drug~~ thereof.

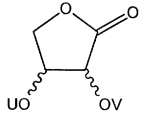
22. (Previously amended) A method of treatment of a viral infection in a mammal in need thereof comprising the administration of a compound according to claim 14.

23. (Previously amended) A method of treatment of an infection by the Human Immunodeficiency Virus (HIV) in a host in need thereof comprising the administration of a compound according to claim 14.

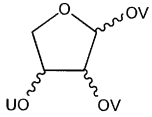
24. (Previously presented) A pharmaceutical composition comprising a compound according to claim 14 as an active ingredient in admixture with at least a pharmaceutically acceptable carrier.

25. (Previously amended) A pharmaceutical composition comprising a compound according to claim 14 as an active ingredient in admixture with at least a pharmaceutically acceptable carrier, and further comprising a retroviral enzyme inhibitor.

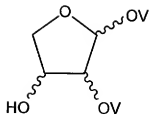
26. (Currently amended) A compound represented by one of the following general formulae (XXVIII) to (XXX):



(XXVIII),



(XXIX), and



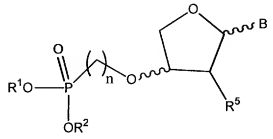
(XXX),

wherein:

- U is an acyl group, provided that U is not an α-ketoacyl group,
- V is a trimethylsilyl or *tert*-butyldimethylsilyl group, and
- the snake-like symbol means any stereochemical arrangement of the respective bond.

27. (Currently amended) ~~The~~ A compound ~~of claim 26,~~ being 2-O-tributyldimethylsilyl-3-O-benzoyl-L-threonolactone.

28. (Currently amended) A furanose nucleoside represented by the general formula (I):



(I)

wherein:

- B is a heterocycle selected from the group consisting of pyrimidine and purine bases;
- the snake-like symbol means any stereochemical arrangement of the bond linking B, or the phosphonalkoxy group, to the furanyl group.
- R^1 and R^2 are each independently selected from the group consisting of hydrogen; (-PO_3R^{16})$_m$-$PO_3R^{17}R^{18}$; alkyl; alkenyl; alkynyl; cycloalkyl; cycloalkenyl; cycloalkynyl; aryl; arylalkyl; ~~heterocyclic ring; heterocyclic ring-alkyl;~~ acyloxyalkyl; acyloxyalkenyl; acyloxyalkynyl; acyloxyaryl; acyloxyarylalkyl; acyloxyarylalkenyl; acyloxyarylalkynyl; dialkylcarbonato; alkylarylcarbonato; alkylalkenylcarbonato; alkylalkynylcarbonato; alkenylarylcarbonato; alkynylarylcarbonato; alkenylalkynylcarbonato; dialkenylcarbonato; dialkynylcarbonato; wherein said alkyl, alkenyl and alkynyl can contain a heteroatom in the hydrocarbon chain, said heteroatom being selected from the group consisting of oxygen, sulfur and NH;
- R^5 is selected from the group consisting of hydrogen, azido, halogen, cyano, alkyl,

alkenyl, alkynyl, SR^{14} and OR^{14};

- R^{14} is selected from the group consisting of hydrogen; alkyl; alkenyl; alkynyl; cycloalkyl; cycloalkenyl; cycloalkynyl; aryl; ~~heterocyclic;~~ arylalkyl~~; heterocyclic-alkyl~~ and acyloxyalkyl; wherein said alkyl, alkenyl and alkynyl can contain a heteroatom in the hydrocarbon chain, said heteroatom being selected from the group consisting of oxygen, sulfur and NH;
- R^{16}, R^{17} and R^{18} are independently selected from the group consisting of hydrogen; alkyl; alkenyl; alkynyl; cycloalkyl; cycloalkenyl; cycloalkynyl; aryl; arylalkyl~~; heterocyclic; heterocyclic-alkyl~~ and acyloxyalkyl; wherein said alkyl, alkenyl and alkynyl can contain a heteroatom in the hydrocarbon chain, said heteroatom being selected from the group consisting of oxygen, sulfur and NH;
- n is an integer selected from 1, 2, 3, 4, 5 or 6;
- m is 0 or 1,

~~including~~ or a pharmaceutically acceptable salts~~, solvates, and~~ or stereoisomer[[s]] thereof.

29. (Currently amended) The furanose nucleosides of claim 28, wherein B is ~~adenine~~ 9-adeninyl or ~~thymine~~ 1-thyminyl.